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LINKS: *Minority Research & Training*

Manson Shares Blueprint for Success in Research

American Indian researcher, Dr. Spero M. Manson, 55, says that he feels a little like Johnny Appleseed who planted trees to bear fruit for future generations. "Some people might consider me a gadfly because I've studied diabetes, post-traumatic stress disorder, cardiovascular disease, dementia, cognitive impairment, long-term care policy, and the diagnosis and assessment of Native people. But I feel like I've planted seeds for research in areas of critical need for American Indians (AI). I've watered and nurtured these projects and want to let someone else harvest the fruit," he said. Manson, a Ph.D.-trained medical anthropologist, is a Professor of Psychiatry at the University of Colorado Health Sciences Center (UCHSC) and director of the American Indian and Alaska Natives Program at UCHSC.

Spero Manson, Ph.D.

Today, Manson is "planting seeds" by training the next generation of scientists at the Native Elder Research Center, one of the Resource Centers for Minority Aging Research (NERC/RCMAR) funded by the National Institute on Aging, the National Center for Minority Health and Health Disparities, and the National Institute of Nursing Research. At the center, Manson and his wife, Dedra S. Buchwald, M.D., work to decrease health disparities in older people by mentoring, recruiting, and retaining researchers interested in the health of American Indian/Alaska Native (AI/AN) elders. The center serves more than 100 American Indian/Alaska Native communities with a staff of 110 people, two-thirds of whom are American Indians.

"Each year, we accept three to five Native investigators into the 2-year program. Since 1998, we've trained 18 M.D. and Ph.D. researchers, most of whom have received individual research grants and have been published in top-tier journals," says Manson, who is director of the center's administrative core. "About 60 percent of our budget focuses on physical health or the relationship between physical health and substance abuse. I recognize that mental health, alcohol and substance abuse, and physical health are intimately related," he said. Manson's interest in medicine was spurred by the fact that diabetes afflicts two-thirds of his extended family and drug and alcohol problems trouble one-half of his extended family.

Born on North Dakota's Turtle Mountain Reservation, Manson was one of 67 grandchildren of his

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More Racial/Ethnic Minority Participation Needed in NIH Funding, Says JNMA Study*

Minorities continue to find barriers to applying and successfully competing for funding from the National Institutes of Health (NIH) that limit the number of racial/ethnic minority principal investigators involved in NIH-funded research, according to an article in the August issue of the Journal of the National Medical Association (JNMA).

In "Barriers to Racial/Ethnic Minority Application and Competition for NIH Research Funding," Vickie L. Shavers, Ph.D., and colleagues say that, "Despite recognition of the need to increase the pool of racial/ethnic minority investigators, racial/ethnic minority representation among NIH-funded investigators remains low."

As a consequence there may be less involvement of racial/ethnic minority researchers in primary roles on NIH-funded research projects, including those related to health disparities, according to Shavers, who is an epidemiologist with the Applied Research Program at the

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Chippewa Indian grandmother Florence Martin and his Greek immigrant grandfather Spero Manson. Manson left the reservation when he was 4 and over the next 12 years, moved 11 times. "My father was a telegrapher-dispatcher with the Great Northern Railroad, and each move meant a promotion for him," Manson explained. The family ended its westward migration in Seattle where Manson finished high school.

A lot of family resources were invested in Manson's education as the eldest male of the grandchildren. Manson was taking pre-med courses at the University of Washington when he attended a life-changing lecture by a medical anthropologist who had just returned from doing research in America Samoa. The researcher talked about how Samoans were affected by their country becoming a trust territory. Samoans, he said, experienced increased obesity, diabetes, and alcohol and substance abuse. Manson said he felt like he was hearing about his own community.

Manson was so impressed by the medical anthropologist's focus on the entire population rather than on individuals that he switched majors. In 1972 he received his B.A. in medical anthropology. While pursuing a master's degree in medical anthropology at the University of Minnesota, he did a small ethnographic study of a clinic in a St. Paul hospital. About 18 percent of the clinic's patients were American Indian, mostly Chippewa, who would come once to the hospital but not return. He examined barriers endemic to the structure of the clinic, the providers' cultural understanding of American Indians, the absence of an outreach program and American Indian staff, and how the financing of care affected health seeking behavior.

"The study was a wonderful blending of my interests in medical anthropology and my interest in learning about and helping my own community," Manson recalled. Although he wanted to focus on his own community as part of this doctoral research, his mentor said that to be a 'real' medical anthropologist he would have to go elsewhere. So Manson traveled to Pakistan to study traditional healers in the Northern Punjab region under a Fulbright-Hays Predoctoral Student Grant and later a National Science Foundation fellowship.

"I studied how western-trained physician extenders could be introduced without conflicting with the traditional healing system, which I was most interested in doing in my own culture," Manson said.

In 1978, Manson became research director of the National Center for AI/AN Mental Health Research at Oregon Health Sciences University (OHSU), and 2 years later received his Ph.D. from the University of Minnesota. "In Oregon, I began to study the cultural constructions of hospitals and health care systems and the implications for diagnosis and health-seeking behaviors. It bridged my personal and professional interests," he said.

While at Oregon, Manson met two people extremely important in helping him understand the blueprints for success: James H. Shore, M.D., a psychiatrist who was professor and chairman of psychiatry at OHSU. He also was one of the first scientists at the U.S. Public Health Service's Indian Health Service and helped Manson think through the bridge between his personal and professional interests. In 1985, Shore was recruited to the University of Colorado Health Science's Department of Psychiatry, and a year later he recruited Manson.

The other VIP was Shirley Margolis-Cullen, Ph.D., of the National Institute of Mental Health (NIMH). She invited Manson, then a young assistant professor, to participate on NIMH scientific review committees, which provided him with an early introduction to sponsored research.

"I was surrounded by grant proposals for the next 12 years on the IRG, first epidemiological reviews and then in health services research. We did site visits to applicant institutions. I acquired a sense of how other colleagues organized their work, thought about it, and got funding." The blueprints for success aren't obvious, Manson said. There are many unspoken aspects that can only be addressed with the help of a senior mentor who has achieved some level of success. Apparently, this early exposure to the grant-making machinery worked well because in 1986, Manson received a grant from NIMH to start the National Center for American Indians and Alaska Natives. Since those early days, Manson has been funded by NIA, the National Heart, Lung, and Blood Institute, and the Indian Health Service in a wide spectrum of research areas. "I was interested in how Native elders cope and the risk factors for anxiety, depression, and dementia. I was also interested in the local understanding of how disease plays out and how it varied from community to community," said Manson who is currently a member of the NIA's advisory council.

There are many interesting research and policy questions in aging, Manson says. Some of them include:

• Providing a full continuum of care to AI/AN elders, including respite care, day care, and long term-care (LTC). "There are very few LTC facilities near reservations, and there is resistance to placing American Indian elders in LTC. As a consequence, very frail elders, who require a lot of caretaking, are kept at home. There is a ripple effect throughout the

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family, and it can cripple their resources," he observes.

• Thinking creatively about intergenerational efforts. Many older adults have a great deal to offer the younger generation, and those connections need to be rebuilt.

• Understanding the nature of dementia in older adults and positioning resources to care for them.

• Developing creative collaborations between the states, tribes, and the federal government. States have access to resources that can be directed to reservations.

• Restructuring health care services. Services are enormously compartmentalized and located in different silos (tribal, states, county, federal). A system of care needs to be reconfigured to provide multifaceted medical care to AI/ANs.

In advice to people involved in minority research, Manson urges them to avoid isolation. "It is absolutely critical to find ways to break down that isolation. It would be ideal if that could happen in their home institution but, if not, they need to find their collaborators and peers elsewhere." Manson also encourages researchers to recognize the tension between their obligations to science and their allegiance to their communities, and to be realistic about what they can actually fulfill.

"Another area often overlooked by young researchers is in developing their writing skills, not only in preparing grants and scientific articles, but also in communicating with others outside the scientific community. It's like riding a bike – it's a learnable skill," he said.

In a final piece of advice to young researchers, Manson notes, "Open yourselves to criticism. We have very thin skins when we're young, and it's important to learn lessons despite the pain." ❖

JNMA Study (continued from page 1)

National Cancer Institute (NCI). Minority investigators could have an important role in enhancing the health of underserved populations with conditions that can be prevented or controlled because they are "more likely to focus on those diseases and/or risks for which minority populations experience disproportionately high morbidity and mortality and bring unique perspectives and experiences that enhance the potential for understanding the factors that underlie variation in health and health status."

Shavers, in collaboration with Drs. Pebbles Fagan, Deirdre Lawrence, Worta McCaskill-Stevens, Paige McDonald, Doris Browne, Dan McLinden, Edward Trimble, and Michaele Christian, used concept mapping, a mixed methods planning approach, to identify barriers and strategies for reducing barriers to racial/ethnic minority application and successful competition for NIH funding. They also held a meeting with 35 minority investigators to discuss results of the concept mapping and to set an agenda for a workshop designed to help reduce some of the identified barriers related to technical skill and career development.

Specific barriers identified by the concept-mapping process and meeting participants included inadequate research infrastructure, training and development; lack of development as independent researchers; inadequate mentoring; insensitivity, misperceptions and miscommunication about the needs of investigators researching minority communities; institutional bias; an unfair competitive environment; lack of institutional support for topics and methods relevant to research with minority communities; and social, cultural and environmental issues.

To rectify the situation, "the NIH should use strategies that overcome barriers at the home institutions, within NIH, and at the investigator level," said Shavers. Specific strategies suggested by the concept-mapping process and meeting participants included creating opportunities for mentorship and collaboration; increasing commitment and accountability of institutions funded by NIH and within NIH; sensitizing and diversifying the grants-review process; increasing technical assistance and skill-building programs; funding more opportunities for career development; cultivating long-term relationships between NIH and its constituencies; broadening the scope and type of funding; and supporting professional and organizational development.

In response to these results, the NCI held a Minority Investigator Career Development Workshop in Palm Desert, CA, July 21-23, that was attended by 134 investigators. Session topics included an overview of NIH-funding mechanisms, grant writing, research methodology, mock reviews, and mentoring relationships. A 2006 workshop is currently being planned for late/August-September 2006.

The full text of the article, J. Nat. Med. Assoc. 2005;97:1063-1077, can be viewed on the NMA website at www.nmanet.org or through a direct link at: http://www.nmanet.org/JMNA_Journal_Articles/August-05_JNMA/OC1063.pdf.

* This article is reprinted with permission of the JNMA, which was established in 1909 and is published monthly by the National Medical Association (NMA). The NMA is the nation's oldest and largest medical association representing the interests of minority physicians and their patients. ❖

Summer Institute 2005

NIA's Biology of Aging Program Seeks To Boost Applicant Diversity

The National Institute on Aging Biology of Aging Program (BAP) supports research into basic molecular and cellular mechanisms underlying the aging process and the role of aging in development of pathophysiologic processes leading to chronic diseases associated with the elderly. Model systems used to explore these basic mechanisms of aging range from yeast, through the worm C. elegans, the fruitfly Drosophila, mice and rats (both normal and transgenic), and monkeys, into human in vitro and in vivo experimental systems. Because of this focus into fundamental biologic mechanisms of age-related changes in tissue function, it has historically been difficult for the Biology of Aging Program to establish a portfolio of research addressing biologic mechanisms underlying diseases and conditions relating to health disparities in various elderly populations.

To try to overcome this barrier, BAP has set two goals: 1) increase the racial/ethnic diversity of Principal Investigator applicants interested in pursuing research into biology of aging-related topics, and 2) increase the BAP portfolio of health disparities-related research. The program will focus initially on the first goal, building a cadre of racially and ethnically diverse investigators who, according to evidence, are more likely to address health disparities research. Once a base of investigators is developed, the program will turn its attention to building the relevant research portfolio.

BAP has initiated efforts to increase applicant diversity. The program convened a brainstorming session that included NIH staff knowledgeable about NIH programs to recruit minority faculty and students into biomedical research, with the goal to assist these investigators in becoming competitive for major NIH research grants. In addition to the NIA, these NIH staff came from NIH Office of the Director, National Center for Research Resources, and National Institute of General Medical Sciences. Issues discussed in this brainstorming session included:

- The infrastructure and teaching needs that seriously interfere with the ability of students and faculty at minority-serving institutions to conduct cutting-edge research should be examined.
- Faculty and/or students from minority-serving institutions would likely be most responsive to programs for which they perceive a reasonable chance of success in receiving funding; this could include Research Supplements to Promote Diversity in Health-Related Research (NIH PA-05-015); mentorship by successful investigators in biology of aging-relevant research; and/or hands-on short courses on grantsmanship.
- Collaborations of minority-serving institutions with research-intensive institutions have potential advantages (ability of minority-serving institutions to attract faculty and students by advertising partnership with research-intensive institutions) and disadvantages (fear of losing faculty and/or students to the research-intensive partnering institutions).
- Collaborations of minority-serving institutions with research-intensive institutions are expected to work best when both institutions are in geographic proximity sufficient to permit easy commuting between institutions.
- Identifying private foundations interested in promoting biology of aging research conducted by minority faculty and/or students who could provide co-funding for appropriate collaborations with research-intensive institutions.

An outcome of this brainstorming meeting is to convene a workshop in Spring 2006 involving successful Principal Investigators in biology of aging-relevant research from research-intensive institutions with minority faculty and/or students from minority-intensive institutions located in geographic proximity, along with private foundations interested in promoting these collaborations. The goal of this workshop will be to form partnerships and mentor-mentee relationships to explore opportunities for collaborative research appropriate for funding by BAP. The NIH PA-05-015 referred to above is a likely mechanism to support initial studies that can form the basis for regular NIH research grants. ❖

NIA Intramural Research Program Provides Mentors, Opportunities for Students

Stuart Mushala, an ambitious young man from Lusaka, Zambia, West Africa, spent his 2005 summer interning at the National Institute on Aging's (NIA) Laboratory of Experimental Gerontology, part of the Intramural Research Program at the Gerontology Research Center in Baltimore, MD.

Mushala, 26, said that the summer intern program is the "best educational experience I've ever had. It helped me solidify what I learned in college. Classroom work provided the basis and foundation for the internship. The NIA internship is a real world experience that has helped me become better-rounded."

At the NIA, Mushala interned for Dr. Rafael de Cabo, head of the Aging, Metabolism, and Nutrition Unit in the Laboratory of Experimental Gerontology. The goal of the lab is to investigate effects of nutritional interventions on the basic mechanisms of aging and age-related diseases. While in de Cabo's lab, Mushala worked on three projects:

- Examining the effects on the mouse lifespan using resveratrol, an antioxidant compound found in nuts, grape skins, and red wine
- Exploring the effects of an unbalanced diet on neuroprotection in rats (high fat/high protein/high carbohydrate diets)
- Using an in vitro model of calorie restriction to analyze the effects of different types of stress on lung, kidney, and liver cells

Mushala was thinking of pursuing a business career but refocused his sites on medicine after falling in love with biology.

"I always loved the sciences and did well in them. Biology, chemistry, and physics give me an opportunity to explain the world around me, and the science of aging provides a broad perspective," said Mushala, who graduated in August 2005 from Brigham Young University in Idaho, with a degree in biology and a minor in chemistry.

Following his NIA experience, Mushala plans to pursue a master's degree in public health at Drexel University in Philadephia. Afterwards, he hopes to be accepted into the Drexel University College of Medicine. Although initially interested in surgery, Mushala said he now would like to study family medicine. In 7 to 9 years he will return to Zambia to practice medicine and he would like to integrate the clinical and research aspects of medicine into his practice, he said.

Mushala with mentor de Cabo

"My mentor had good interactions with the students and, at the same time, challenged us. An internship at NIH is definitely worth it. I recommend that students apply because the benefits are great. It doesn't matter if you are going into medicine. The tools here will take you far no matter where you end up," Mushala said. It has also opened up doors in terms of networking and making contacts with world-renowned scientists, he said.

De Cabo says that interns, with their varied backgrounds, contribute energy, excitement, and enthusiasm to his lab.

"The students are exposed to a real lab and to working scientists. The summer intern program allows them to participate in a wide variety of scientific experiments and attend lectures by top notch researchers. I don't show students every step. I leave them with a challenge so that each student feels satisfied with his or her input. Whatever they put into a summer program, they are rewarded three, four, five times."

The summer internship program in biomedical research is a unique opportunity for students to develop skills in scientific research. The program offers high school, college, and graduate students hands-on experience in laboratory research. For more information about the NIA Summer Program, please contact Arlene Jackson, Intramural Recruitment Specialist (410) 558-8121. To apply for the program, visit the website at NIH Research and Training at www.training.nih.gov/student/internship/internship.asp.

Summer Institute on Aging Research 2006 – The 20th Anniversary

The National Institute on Aging (NIA) announces the annual Summer Institute on Aging Research, a weeklong workshop for investigators new to aging research, focused on current issues, research methodologies, and funding opportunities. The program includes consultations on the development of research interests. The 2006 Summer Institute will be held July 8-July 14 in Queenstown, MD. Support is available for travel and living expenses.

Applications are due March 3, 2006. To increase the diversity of participants, minority investigators are strongly encouraged to apply. The applicant must be a U.S. citizen, non-citizen national, or permanent resident. There will be a special pre-conference to the Summer Institute on Aging Research for nurses July 7-8, focusing on clinical studies and clinical trials. See the application brochure for details.

For additional information and application form, contact: Office of the Director, Office of Special Populations, National Institute on Aging, National Institutes of Health, Building 31, Room 5C-35, 31 Center Drive MSC-2292, Bethesda, Maryland 20892-2292. Telephone: (301) 496-0765, Fax: (301) 496-2525, E-Mail: gulinj@nia.nih.gov or see the "What's New" section of the NIA Web Page: http://www.nia.nih.gov. ❖

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